Teaching the future

By JILL TREADWAY
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More than 12 years ago, Bob Sexton started changing the way technology was taught at Seymour High School.

With the change came complaints and concerns from parents who said their children should be learning woodworking, not manufacturing.

Through hard-work and determination, Sexton proved the need for a new way of teaching technology education. He recently was presented with the 2007 Distinguished Teacher of the Year award from the Greater Seymour Chamber of Commerce for his work at the school.

Several years ago, John Bottorff, then director of the chamber, took Sexton on a two-week tour through many of Jackson County's industries.

"I had a grant proposal that I was working on and he took two weeks to run me through different companies; it was the beginning of the industry and the school partnership," Sexton said during the recent annual chamber awards program. "The partnership is still growing, thanks to Jackie Hill and Jackson County Industrial Development Corp."

Today, Sexton's manufacturing lab is being used as an example for other communities that want to develop their own labs as part of the Economic Opportunities 2015, or EcO15 project. EcO15 is a regional project that covers southeast Indiana and focuses on advanced manufacturing, health care services and hospitality and tourism.

Recently, community foundation officials from around southeast Indiana toured the lab to get ideas to take back to their own schools.

Sexton said the southeast region of Indiana will see the results of the $38 million grant from the Lilly Endowment fund that he was a part of this year.

"The grant has allowed me to show off to the entire state our facilities at Seymour High School," Sexton said during his award acceptance speech.

"Thankfully, years ago we had the foresight to do something and to follow a thought that I truly believe in," Sexton added. "That is what we need to teach, this generation's future, not my past. The 'Dream It. Do It.' campaign has allowed me to do that."

The Indiana Region 9 Workforce Board, in partnership with educators, businesses, government and economic development officials, launched "Dream It. Do It."

The program's goal is to make this region of the Hoosier state the best place in the world for manufacturing and a major player in the global economy.

Sexton's lab has not only brought people in from surrounding communities, he also has been busy giving tours to people as far away as Texas and Canada.

This year, Sexton has changed his teaching methods to add online learning.

“Man, that’s a whole different ball game for me,” Sexton said. “It pushes me a little further; it pushes me farther than my students at times.”

Sexton said the school has also added the Manufacturing Skill Standards class, which is a night class for adults. He hopes to incorporate it into the curriculum for high school students in the fall.

“I want to be teaching the next generation’s future, not my past,” Sexton repeated, and that is exactly what he’s done.

Sexton has success stories of many of his former students, and one student told Sexton shortly after getting a job that he was in consideration of being promoted.

The student was ahead of the game because he had knowledge of one of the software programs the company used that he had learned in high school, Sexton said.

During the tour with community foundation leaders, Sexton talked about a student he had who was into robotics.

“He used every excuse to be able to use the robot,” Sexton said. “He would rush to get done with whatever station he was assigned to so he would have time to use the robot. He would come in on his own free time to use the robot.”

After high school, the student went on to college, where he won awards in robotics, and he later went to work for Sony.

Community benefits

Superintendent Robert Schmielau said the program and its hands-on approach offers advantages to students and community and could help battle the so-called brain drain of graduates completing their educations and living and working elsewhere.

“There are two advantages for the kids,” Schmielau said. “One is, if they’re going to college, it’s a pre-engineering class. The colleges will give them advanced placement and admission to Purdue and Rose-Hulman. It’s a leg up for those kids.

“We’re also looking at MSSC certification, where if we have kids who complete two years, they have that certification,” he said. “They can go into Aisin or any of the manufacturing companies here and say they have that and it’s a strong indication to the manufacturers that these are pretty good kids and that they have a knowledge base.”

The hope is that it will encourage students to go to school, either immediately after high graduation or after working a couple of years.

The program is also establishing a fourth year of study that will be geared toward an internship program, Schmielau said.

“That’s so a student can go in and get credit for working with a company to get a better understanding of the company, and the converse of that is the company gets a better understanding of the kid,” he said.

“This is an opportunity for the employer to say this is a good kid, one they want to employ, either after college or after high school,” Schmielau saud. “Then they could set up a tuition program where they work for you in the summer and they help with tuition, then have them come back after graduation to work with you one or two years. After they’re there a couple of years, you usually have them. It could result in brain gain.”

Brent Kilgas, vice president of Excel Manufacturing in Seymour’s Eastside Industrial Park, agreed.

“We’re finding it’s giving the kids a leg up and an advantage when they go off to get a technical degree,” Kilgas said.

“We like bringing people in familiar with the skills that we use,” he added. “The lab is helping us do that.”

Kilgas said he’s spoken with students in open house forums to stress to them the importance of what they’re learning in the manufacturing lab.

Teaching new technology

Sexton said his students have taught him as much about new technology as he has taught them. Sexton recently was in charge of putting together an in-service for his fellow teachers that focused on new technology and using it to your advantage.

He asked students what features they used on their cell phones; they gave him ideas of how to take the technology further.

Cell phones and Sony PSPs (handheld Play Stations) have become popular among high school students. Sexton suggested using a text message homework alert or using the cell phone as a way to survey the class. He also mentioned using Bluetooth technology as a way to give handouts and save paper. Students can even study for the SAT, PSAT and ACT college entrance exams through their cell phones.

Sexton said many schools don’t have the technology that Seymour students use daily.

“Just think of what we could do if we took cell phones and PSPs to a rural school,” Sexton said.

The manufacturing lab

Sexton divides his class into groups of six.

They are then assigned to one of the stations in the room to learn how to use that machine or piece of technology and then they rotate.

“They don’t have enough knowledge to do it on their own, but together they work to make the puzzle fit,” he said. “That’s the fun part of project-based learning, bringing students together to bring their piece of the puzzle.”

Besides working together, Sexton teaches the students about outsourcing.

A group in one of his classes lost one member of their group while in the middle of a project. The rest of the students in the group didn't know how to do the CAD design the member had been assigned to perform. Sexton told the group to outsource to complete the project.

The student, not knowing what he meant, looked up "outsource" and realized they could ask another group to help them with that station.

"Which is what manufacturers do, outsource," Sexton said during the tour with community leaders. "Companies have to call on other people to help them get the job done."

The stations in the lab include:

Automated material handling.

Electrical systems.

Quality assurance.

Fluid power systems.

Manufacturing process.

And design process.

During the semester, students create projects such as a can crusher, ergonomic work cell, hovercraft, hydroponics, smart home and a solar-powered vehicle.

The manufacturing lab has grown since it first started in 1996, and Sexton plans to continue to add to it.

"There is some online software I want to add," he said. "There are a couple more stations I want to add, including 3D printing."

During his speech at the chamber dinner, Sexton said he hoped they could continue doing neat things at the high school.

"Just keep adding more things and keeping things fresh, keeping things new," Sexton said.

"And like I tell my students, next year something is going to be added, something is going to be different. It's just a lot of fun; I'm just having a good time."

About Bob Sexton

Teacher Bob Sexton has a bachelor of science degree in education and a master's degree in art education from Ball State University

Before coming to Seymour, he taught at Clarksville Community School Corp. in Clarksville and Danville High School in Danville, Ill. He is Project Lead the Way certified.

He has a wife, Melinda, and two children, Mikayla, 11, and Isaiah, 8